

## Claims

1. A method for the biological cleaning of waste water in which the waste water and gas are supplied to a reaction vessel containing micro organisms through a two-component nozzle which consists exclusively of two steady mutually concentric tubes, said nozzle having no additional supply elements and projecting into the reaction vessel and into the waste water therein along its vertical axis, wherein the internally located gas-conveying inner tube of the two-component nozzle is surrounded through the intermediary of a free annular gap by the outer tube conveying the waste water which is delivered by means of a pump, and in which the mixture of waste water and gas in the reaction vessel is moved in circulatory manner, characterized
  - in that the inner gas-conveying tube (9) of the two-component nozzle (2), to which the gas is supplied by means of a blower, ends within the outer waste-water-conveying tube (8) at a spacing (h) from the outlet opening (3) thereof which is greater by at least the factor "5" than the internal diameter ( $d_F$ ) of the outer tube (8) in the vicinity of the outlet opening (3), and
  - in that the outlet opening (3) of the outer tube (8) and thus the two-component nozzle (2) is spaced from the base (4) of the reaction vessel (1), which contains no further fittings other than the two-component nozzle (2), by a distance (A) which is greater than half the height (H) of the waste water in the reaction vessel (1).
2. A method in accordance with Claim 1, characterized in that the outlet opening (3) of the outer tube (8) and thus the two-component nozzle (2) is arranged at approximately two thirds of the height of the waste water contained above the base (4) of the reaction vessel (1).
3. A method in accordance with Claim 1 or 2, characterized in that the waste water is supplied to the outer tube (8) of

the two-component nozzle (2) together with waste water extracted from the reaction vessel (1).

4. A method in accordance with any of the Claims 1 to 3,  
5 characterized in that two or more two-component nozzles (2) are arranged without any other fittings in a reaction vessel (1).